

GOING AHEAD!

TWENTY-TWO years have gone by in which the radio amateur has stood out by developing the art of receiving and transmitting until it is an every-day occurrence to hear him talking to all parts of the world. Looking over the list of famous names in radio, it is noteworthy that these, in nearly every case, sprang from the ranks of the amateur. We take our hobby seriously and have a very high standard code of ethics to live up to, and it is upheld to a very high degree.

We have only started! The possibilities of ultra-short wave work are unknown. Television is in the minds of all . . . nothing can hold it back . . . the amateurs are the ones who will again stand out for giving the world another great invention that will have vast influence on our economic welfare and well being. International peace and goodwill will be more firmly cemented.

There are thousands of amateurs who will admit the experience of experimental work in radio is a great asset in earning their every day bread, and opportunities are greater now than they ever were. Don't stop now! Keep going ahead!

CANADIAN TIRE CORPORATION LTD.

625-637 Yonge St., Toronto

Distributors for

Hammarlund, National, Triplett, Readrite, Hammond, Utah-Carter, International Resistance, Northern Electric, Signal, Shure, Insuline Corporation, Auto-Lite, Cardwell, American Radio, E. F. Johnson, Bliley, Westinghouse, Canadian Jefferson.

The Best in Radio

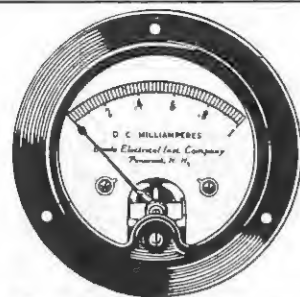


XTAL

devoted entirely to

the amateur

1935



AMATEURS!

WHY GUESS AT THE PERFORMANCE OF YOUR XMTR WHEN YOU CAN TELL AT A GLANCE WITH A BEEDE PRECISION METER? D'ARSONVAL MOVEMENT, SAPPHIRE JEWEL BEARINGS, ACCURACY GUARANTEED 2%.

MODEL 411, 2" Dia., D.C. M.A., 0-5 to 0-1000 M.A. In all Standard Ranges, \$3.49
MODEL 701 0-1 D.C. M.A. \$5.50

MODEL 701, 3 1/4" Dia., D.C. M.A. 0-5 to 0-1000 M.A. In all Standard Ranges, \$4.49

MODEL 717, 3 1/4" Dia., A.C. Voltmeter 0-5 to 0-50, in all Standard Ranges, \$4.49

MODEL 407, 2" Dia., A.C. Voltmeter 0-5 to 0-50, in all Standard Ranges, \$3.49

MODEL 407, A.C. Voltmeter 0-150, \$4.49

MODEL 717, A.C. Voltmeter 0-150, \$5.49

MODELS 701 and 717 Meters supplied in Bakelite Case, 3 1/4" Dia., at 45c. extra.

SPECIALS
KENCO BUG KEYS, \$12.50
JEFFERSON FILTER
CHOKES

30 H.Y., 150 M.A., \$1.52
UNIVERSAL S.B. BABY
MIKES
U.S. List \$7.50 Special \$4.25

CUSTOM BUILT
TAYLOR TUBES
H.D. 866s, \$3.95

825s, 40 watters, \$7.20

203A Carbon Anode, \$18.15

SPECIALS
H.D. 210, \$1.98

R.F. CHOKES
Similar to National
R-100, .28c.

Complete stock of all standard lines. Orders shipped same day received.

A AND A RADIO SERVICE AND SUPPLY

Canada's Foremost Radio Supply House

101 QUEEN ST. W.

WA. 5666

TORONTO, ONT.

Introducing "More Watts per Dollar" To the VE Amateurs IN TAYLOR CUSTOM BUILT TUBES

203-A
\$18.15
net

TAYLOR 203-A is designed for use as an Oscillator, Power Amplifier and Class "B" Audio Modulator. The most reasonably priced tube of its kind on the market. A tube that can stand generous overloading.



The 825 is now a 40 watt tube to meet the average amateur's purse. Eliminates expensive power supplies, costly sockets and high voltage condensers. Excellent Intermediate Amplifier for high powered transmitters, due to its high output. As Class "B" Audio Modulators, a pair of these tubes will deliver 80 watts of audio at the maximum plate voltage.

825
\$7.20
net



HD 203-A
\$25.40
net

TAYLOR Tubes again lead with a tube designed to fit between the 203-A and 204-A. A real tube that "can take it." When used in Push Pull as Class "C" Amplifiers an input of 900 watts can be applied. As Class "B" Modulators a pair will deliver 500 watts of audio.



OUR GUARANTEE—All TAYLOR Tubes are guaranteed against defective workmanship and material. We will replace any tube returned to us which has failed due to mechanical or electrical defects.

Write for descriptive bulletins. Carried in stock by all leading jobbers.

ATLAS RADIO CORP. LTD., 500 King St. W., Toronto, Ont.



PUBLISHED MONTHLY

BY

ONTARIO AMATEURS

UNDER

DIRECTION OF THE S.C.M.

AT

4 SHORNCLIFFE AVE.

TORONTO, ONTARIO

No. 1
1935

VOL. I
MARCH

EXPRESSIONS HEREIN ARE THE OPINIONS OF CONTRIBUTORS ONLY

FLEDGLING

In a few short months, their wings strong, tiny birds will be shooed from their nests to find for themselves. Little fellows, mere fledglings, who must spend months strengthening themselves to meet the world single-handed. The sensation they must experience when they tip off the edge of their cradle would be interesting if we could only speak their language. We would agree, as one, that we had a pretty cushy time simply lying around being admired, the object of a time-worn set of compliments, until such time as we decided to get up and take a stroll on good old terra firma, single-handed, into the trials and tribulations of many tomorrows. Apropos, the sensation of XTAL—what is to be? Just what is to be? Over the panels of your receivers, daring to attract from the very faces of your meters, peeping from between the plates of your condensers with an appeal to your dormant desires of effecting a more closer contact among Canadian Amateurs, comes the cry of this "fledgling" for a place in your fraternity. Daring to claim relationship to QST, even as a thirty-second cousin, without any attempt at emulation is rather a drastic tendency with so many tomorrows to be skedded. But, alas, why not? Is there not a place for just such a voice of that spirit "Of, By and For" as developed by ole WIMK? Strictly independent, perhaps boldly, of QST, XTAL shall carry on, hand in hand, endeavouring to support better radio when better radio is made by the ARRL.

Brother VE . . . shake!

1935

At last "We're off" in another year, and with it comes a host of problems, wonderment, anticipation and, best of all, a brighter outlook. But, since this person spent most of his time and education playing hookey (to pound brass) methinks he had better stick to items of interest concerning those who understand and can speak and tolerate his language. To go beyond that in a somewhat

wet-behind-the-ears Ham mag would be MURDER to somebody or other.

Anyway, to wager your best Sunday collar button that this year will surpass all others with progress in every branch of amateur activity would be the "surest thing" that ever induced you to lay it on the line.

What with 56 megacycles becoming a problem almost of the QRM committee and no longer for the technician, and practical communication on the 224 megacycle band, one is prompted to suppress a snicker when rocket ships and stratospheric sky-riders are discussed.

Little tubes to squirt signals across city blocks, who knows maybe states, oceans, and beyond, no larger than the big brass thimble that mother always lost; directive antennae a la Ross Hull in last November QST which you or I will be able to "aim" in the general direction of somewhere, cough out a couple of calls and get a report on what sort of target groupists (marksmen to you) we are.

To be real "hot stuff" we shall have to speak in terms of centimeters.

Pretty soon we vote for Traffic Cops to scout with watchful eye for these slashing, rip-snorting, revolutionizing Hul-lamb-grammers of Hartford. Let's hope they never catch 'em.

1935 will be a cavalcade of BRAINS—BOTTLES—BUFFERS—BEAMS XELLENT XTAL XMTRS—AND FABULOUS FUN FOR HILARIOUS HAMS.

Jon VE3QK.

We wish openly to express our appreciation to our advertisers who have made this tiny publication a possibility. Where is there an amateur who has not gone to sleep at night dreaming of how his station could be improved? Let's spend what little we do for radio parts with our advertisers. Our aid is their existence, and their aid is our existence. Mention that you saw it in XTAL. It identifies you and helps XTAL.

Cover design planned by VE3QK.
Drawing by VE3RF.

THE CANADIAN RADIOPHONE ASSOCIATION

By Leonard W. Mitchell, VE3AZ

For a number of years the need has been felt among amateur radiophone operators in Ontario for a radio club or organization devoted primarily to their interests and activities. In most of the larger cities there are at least one, and in some cases several, local radio clubs, but due to the predominance in the membership of these clubs of men primarily interested in c.w. the radiophone men are unable to get an expression of their opinion when the club as a whole votes on questions of policy for the advice of the ARRL Canadian General Manager. This is not due so much to the fact that the c.w. men outnumber the phone men but rather to the fact that the phone men on account of lack of interest in these local radio clubs are not active members. As they have no organization of their own they can only speak individually and even this they often neglect to do.

As a result of this inarticulate position of the phone amateurs and to supply a growing need for an exchange of technical information on problems of interest mainly to radiophone amateurs the idea of a national phone organization has been discussed by a number of prominent phone amateurs ever since the Canadian Division Convention in 1932. Recently the success of the Atlantic Division Radiophone Association has given an added impetus to the idea and when provision was made by the Committee in charge of the 1934 Convention for a meeting of the phone amateurs and it was found that Dr. Burton T. Simpson, W8CPC, would attend the convention he was asked to discuss the organization of a phone association. Dr. Simpson was particularly qualified to do this not only because he is president of the Atlantic Division Radiophone Association and one of its founders, but as he has also been instrumental in the organization of most of the other Divisional radiophone associations in the United States. His talk on what had been accomplished by the Atlantic Division Radiophone Association crystallized the idea of a national radiophone association for Canada, and, before the convention had concluded a small band of Canadian amateurs, including VE3AP, 3CN, 3FP, 3IG, 3II, 3IQ, 3JG, 3JI, 3JV, 3KM, 3RT and 3SX, held a meeting in one of the rooms of the King Edward Hotel to discuss the matter in more detail with Dr. Simpson. It was at this meeting and under the guidance of Dr. Simpson that plans for an association to be known as the Canadian Radiophone Association first definitely took shape; the type of organization was decided upon and tentative officers were elected.

The formalities of organization such as adopting a constitution and by-laws were of necessity left to a later date and on October 18th, 1934, a group of representative phone amateurs from Toronto and Hamilton districts including VE3FP, 3HE, 3II, 3IX, 3JG, 3JU, 3KM, 3NR, 3SX, 3XJ and the writer met at the home of Mr. J. M. Campbell, VE3JG, and a constitution, which had previously been drawn up, was, after discussion, adopted bringing the Canadian Radiophone Association officially into being. Prior to the meeting the proposed constitution had been given wide publicity over the air by VE3FP, VE3II, VE3JI and the writer and there is no doubt that most Canadian amateurs who listen on the 3900-4000 kc. band were by the time of the meeting fairly familiar with at least its more important provisions.

The purposes of the Association as defined by the constitution are (a) to promote interest in radiotelephony among Canadian amateurs, (b) to improve operating practices, and (c) to provide a common forum for the discussion of radiotelephone problems. Membership is restricted to licensed amateurs who are British subjects and interested in radiotelephony. It is not necessary for members to operate phone stations as long as they are interested in radiotelephony and have an amateur license. Already a number of exclusively c.w. men have joined the Association, including VE3GT, the SCM of the Ontario Section. Only operators of active phone stations, however, may hold office in the Association. Membership dues are \$1.00 per year and the membership year expires on December 31st in each year.

While it is the aim of the Association to ultimately become Dominion wide in its activities, the officers have for the present been elected from the province of Ontario and the organization has been confined chiefly to that province. This has been necessary owing to the vast distances separating the various parts of the Dominion and it was thought that if Ontario was first organized and functioning properly, other provinces could be added and officers elected as the membership in such provinces increased. Already members have joined the Association from almost every province of the Dominion and such a number from Quebec have joined that it will soon be necessary to organize in that province.

The Association is governed by a Board of Directors consisting of a President, a Secretary and a Treasurer and a number of Vice-Presidents, one of whom is elected from each district into which, for the purposes of the

Association, the Dominion is divided. The Province of Ontario (the only one which is as yet organized) is divided into three districts, the Eastern, Central and Western. The following officers have been elected:

Honorary Vice-Presidents—

Alex Reid, VE2BE.

Dr. B. T. Simpson, W8CPC.

President—H. M. Cole, VE3II.

Secretary—J. M. Campbell, VE3JG.

Treasurer—L. W. Mitchell, VE3AZ.

Vice-Presidents—

Eastern Ont. District—J. L. Walker, VE3JI.

Central Ont. District—Stewart Clark, VE3FP.

Western Ont. District—W. B. Crickshank, VE3NX.

Technical Adviser—Gordon E. Pipe, VE3XJ.

Legal Adviser—L. W. Mitchell, VE3AZ.

Each vice-president has authority to appoint in his own district up to three assistant vice-presidents to assist him in the work of the Association. All of these appointments have not yet been made, but as soon as they are notice of them will be published.

The Eastern district consists of the counties and districts of Addington, Carleton, Dundas, Durham, Frontenac, Glengarry, Grenville, Haliburton, Hastings, Lanark, Leeds, Lennox, Nipissing, Northumberland, Peterboro, Prescott, Prince Edward, Renfrew, Russell, Stormont, Temiskaming and Victoria, and, for the time being, all that part of the Dominion of Canada lying east of the eastern boundary of the Province of Ontario. The Central District consists of the counties of Brant, Haldimand, Halton, Lincoln, Norfolk, Ontario, Oxford, Peel, Welland, Wentworth and York. The Western District consists of the counties and districts of Algoma, Bruce, Dufferin, Elgin, Essex, Grey, Huron, Kenora, Kent, Lambton, Middlesex, Muskoka, Parry Sound, Patricia, Perth, Rainy River, Simcoe, Sudbury, Thunder Bay, Waterloo and Wellington, and, for the time being, all that part of the Dominion of Canada lying west of the western boundary of the Province of Ontario.

General meetings of the Association will be held as far as possible in conjunction with the Canadian Division Convention of the ARRL and elections for officers will take place at such general meetings. Members unable to attend the general meeting may vote by proxy.

It is not the intention of the Association to oppose the ARRL but to work along with that body wherever it is practicable to do so. With this in view all members of the CRA who have not already done so are being en-

(Continued on page 9)

BCL INTERFERENCE

Phone men will be interested to know that the time honoured coil and condenser wave trap for eliminating CQs, and what-not, from their neighbour's broadcast set works much better when shielded. Experience has shown that in most cases unshielded traps are useless, and hardly ever give better than fifty per cent. satisfaction. In the vicinity of two high powered Toronto phone stations traps constructed as described below are being used at the present time, are surprisingly effective, and one 500 watt station is able to go on the air at any time day or night with no trouble from BCLs.

Wind approximately 20 to 25 turns of small wire, closely wound, on an inch diameter form. Use a padding condenser from an I.F. transformer, and an aluminum can from an I.F. transformer shield, or something similar, the smaller the better. The coil is easily fastened to the padding condenser and both fixed inside the can, short leads being brought out from each side of the shield. The combination should be kept fairly high C. Tuning adjustment is made through a hole in the top of the shield as with an I.F. transformer.

Tuning the trap to the offending transmitter's frequency will be sharp, and resonance is best found by tuning it up in your own shack, by inserting it in the antenna lead of your own short wave receiver which is also tuned to your transmitting frequency. When you attach the trap to the BCL set, ground its shield to the chassis of the receiver, and keep the antenna lead from the receiver to the trap as short as possible. Slight re-tuning may be found necessary.

In some cases the main difficulty in the broadcast receiver is not in the antenna but in the ground lead which brings through the ground wave. Disconnecting the ground to the set will usually fix this trouble, but a trap as described may be inserted in the ground lead with the same effect as it has in the antenna. Where it is found that the interference is being caused directly through the power supply leads, the trap will also be most effective, but the coil in the trap should be wound with wire capable of properly handling the current to the receiver. Adequate insulation, of course, is necessary.

If enough time and trouble is taken in the installation of traps like the above in troublesome broadcast receivers in your neighbourhood, you will be surprised how nicely your difficulties clear up, and will be rewarded with more hours in which you can operate your transmitter, without fear of the RI suggesting, or demanding, silent hours.

Milt VE3II.

ADDING CRYSTAL CONTROL TO YOUR TNT

By S. B. Trainer, Jr., VE3GT

A surprisingly large number of contestants in the VE/W Contest held last October remarked, on sending in their results, the questionable quality of the notes of a large number of VEs. VE3WX, Official Observer, reported the same thing, though he added that the number of Ws of similar quality outnumbered the VEs logged by about twenty to one, which would make the proportion about the same considering there are about twenty times as many licensed amateurs in the United States as there are in Canada. Our radio has advanced to such a point today that everyone should be using crystal control, or at least pure DC. In fact, the more recent single signal receivers do not reproduce RAC notes very well, and if there is any frequency wobblulation whatsoever, such signals, unless very strong, are quite impossible to copy. For this reason alone it would seem that to have a pure note and as steady a wave as possible, is almost a necessity of to-day. And wouldn't it be nice if the rest of the world, and the United States in particular, could speak of the VEs as the "gang with the perfect notes?"

We in Canada have done a remarkable job considering the difficulties under which we operate. We have, for the most part in Ontario, 25 cycle current with which to work. Apparatus costs us a whole lot more than our brothers south of us pay for it, providing we buy first class equipment, and we do not have the scads of second-hand stores to barter with. Cost of living is greater than in the U.S. and salaries are less. We don't have as much money to spend on hobbies, and therefore we are lucky if we can accumulate enough equipment to put a presentable signal on the air. And as hams have always done since they were shoved off into "useless" lower waves, it is up to us to determine some way around our difficulties, and to make the best of what we have.

A number of years ago, and soon after crystal control originated, an English periodical ran a sizeable article on the Goyder Lock. This came out, and disappeared from general use almost immediately. Nothing more was read on the subject until last year when a Belgian sent in a short article to QST. This was followed by two comments in later QSTs in the Experimenter's Section. It would seem that this idea was not approached by any Ontario stations, or if it was, no success resulted from the experiments.

QST has gone into all the simplest forms of crystal control such as all band operating with one crystal using numerous tubes, using two tubes and using only one. All these systems have their individual merits, but are certainly not as applicable to us in Ontario

as the very simple Goyder Lock. As far as can be determined the majority of VE3s today are using some form of TNT for their transmitters, whether it be a single '03-A or a pair of '01-As in push-pull. Push-pull '45s being the most common. It is odd how some TNT rigs produce the most perfect of notes, and also odd how terrible a note can come forth. In any case, would it not be nice if we could add crystal control to our present transmitters of this type for practically no expense, and without having to go into many of the intricacies of more involved crystal control? This can be done, and done most easily. In fact, the Goyder Lock works so easily, so smoothly, and is so free of "bugs" that it should appeal to every one who is at all interested in making their TNTs perform much better. An hour or two's work and a try will prove its merit.

"Adding Crystal Control to Your TNT" is the title of this article, so we are assuming you use a TNT, or else understand its simplicities enough to readily equip your station with one. Adding the crystal control, then, is our only interest.

Build an 80 meter tritet crystal oscillator using either a type '24, '35, or '59. It does not seem to matter whether the input to these tubes is 5 or 55 milliamperes, so that the '24 and '35 work as well, for this purpose, as the '59. One of these tubes is probably kicking around your shack but can be "borrowed" from a BCL set if need be. You will have ample parts in the shack for the components for the tritet taken from old converters, BCL sets, etc. If you will follow "Tritet Tricks" as on Page 41, January, 1934, QST, and combine it with the article and Fig. 4 on Page 31, June, 1933, QST, you cannot go wrong. A .00035 condenser should be used for tuning the tritet tank coil, though all sizes and capacities do not necessarily have to be exact. It is very easy to construct, and if done with some care, it will oscillate very easily, and the frequency stability will be all that one desires. Quite low voltages may be used on a '24 or '35, all that is required being smooth output. As suggested above, this output can be quite low and work equally as well. Any power supply, properly filtered and of sufficient current to make the tube oscillate easily, will suffice. In other words, any AC receiver power supply will do the job nicely. If you use an AC receiver for ham work this can be used as easily as any other, though "break-in" will be found harder to accomplish. If such a supply is not readily available one may be built from parts from any torn down receiver supply, and the cost will be minute owing to the large number of such parts that are available.

THINGS WE WOULD LIKE TO KNOW

Who the four Toronto hams are that swap questionable yarns each noon-hour in Toronto's Blackstone, and who the fifth guy is.

Who the lid was that "CQed" long and lustily 195KC off frequency the morning we tried to pull the Royal Wedding in direct, and when the Gov't is going to cancel all our licenses.

Why doesn't the VE3 that grinds brazilian quartz into eighty-eight sided imitation diamonds put a ham ad in QST and XTAL and help the OMs sell the YFs on radio.

Why some good phone doesn't let those two YLs of 3BC's and 3GT's talk radio over the air. We hear they're mighty good at it.

What a certain lid said to a YL 3500 feet up on her first airplane ride.

How long the Toronto hams are going to put up with the ham who, like a skeeter, flits to the frequency of the station being worked.

If we'll be able to tune out certain portions of Sally Rand's famous dance on the new commercial television sets.

When the P.O. Dept. in the old country is going to wake up. We hear of vast quantities of stamps being bought to deliver messages, and the G's don't handle third party tlc.

Assuming that you have your tritet oscillator the next step is some means of coupling your tritet to your TNT. This can be done in several ways. One method that works well is described on page 38, August, 1933, QST. The writer finds two other methods equally as good, if not easier and better. The tank of the Tritet may be loosely coupled to the grid coil of the TNT directly. These two coils can even be wound side by side on the same form, spaced about an inch apart, and wound in the same direction. Another method is to wind a coupling coil of a few turns (five to ten) about one half inch from the grid coil of the TNT and on the same form. Leads are taken from both ends of this coupling coil and connected with a similar coil wound beside, or on top, of the tritet tank coil. These leads may be of any length, so that your oscillator may be any distance from your TNT. If you prefer, instead of winding coils on both the grid and tritet tank coils, you may couple coils to each by placing them inside both these coils in good old "loose-coupler" fashion. The distances of the coupling coils from the fixed coils is not critical, and may best be determined from actual experiment with your own equipment. To say it isn't critical is correct, and allows you plenty of leeway so that you won't have any trouble creating the desired effect.

"Locking" the tritet and the TNT is simple and is done by means of your monitor. Listen to the oscillator in your monitor, tune it to zero beat and then turn the oscillator off. Tune the TNT to the same zero beat, the same frequency, hold the key down, turn on the tritet, and at once you will notice that both notes sound exactly like your oscillator note, due to the locking effect and that your TNT is now crystal controlled. The TNT may drift as far as 10 KC either side of your crystal frequency, yet the oscillator will hold the TNT output signal on crystal frequency. You have a crystal controlled transmitter.

A tritet oscillator has been suggested all along for the purpose of operation on all bands. One 3.5 mc crystal, that will double into all amateur bands, in this tritet will suffice for all bands including 160 and 10 meters. The one tritet tank coil as described in QST will be sufficient for 3.5 and 7 mc. Separate coils should be made for 14 and 28 mc. Tune the tritet tank to best harmonic output on the desired band, by listening in your monitor. Of course the TNT must be tuned to the desired fundamental frequency. Locking is done in the manner described in all cases, but you are locking to harmonic outputs when not on the crystal fundamental. Such is the usefulness of a tritet oscillator for this system.

The coupling applies to single tube TNTs and to push pull TNTs. In the case of push pull the coupling coil may be coupled to (Continued on page 10)



The lasting quality and dependability which the amateur radio station builder always demands has always been present in
CONTINENTAL RADIO COMPONENTS

You will also be interested in the new developments which Continental has made in the past year, developments which make these products outstanding in VALUE and SERVICE.

See your CONTINENTAL JOBBER today!

Write for our bulletins and prices on—
CONTINENTAL RESISTORS
CONTINENTAL SUPPRESSORS
CONTINENTAL CONDENSERS
MICROPHONE GRANULES
SHALLCROSS EQUIPMENT

CONTINENTAL CARBON OF CANADA LIMITED

54 Sumach St. - Toronto

ALONG THE BYWAYS OF HAMDOM

THE CW GANG

Well, gang, we want to have this column filled up with news of all of you. What you're using, your usual frequencies, age, occupation, operating hours, habits (maybe), state of matrimony, or thought of same, are just a few of the things we feel we could print about you that would interest everyone in our section. In other words, to make it similar to the Ontario Section report in QST, only enlarge it, and make it more interesting. After this first issue, we hope to be able to give you all the latest news of one another when it isn't more than two weeks old. It would really be useful then. The SCM is the one man in the section to whom reports arrive every month, but there are far too few of them. Now that we have a Bulletin of our own, let's use it. So, sit down any time, whenever a thought occurs, drop XTAL a line, and it'll take only a few weeks until we'll know more about each other, and have a chance to get better acquainted. Let this column solve your QRM difficulties on the air. There won't be QRM here unless we print such things as VE3TM is well known, and has been for some time, as "lady-killer." We've been trying to find out if this is true. (Won't he jump down my neck when he reads this.) So, come on, fellas, let's have more dope, dirt, or ditties. Ontario Route Managers are VE3JT (Chief), VE3DU, VE3DW, VE3HP, VE3QK, VE3RK, and VE3WX. Get in touch with the RM in your district for skeds or any information. The ORS are VE9AL, 3GT, 3DJ, 3TM, 3LI, 3GI, 3AU, 3GO, 3DW, 3JI, 3MX, 3WX, 3IB, 3HP, 3QK, 3RK, 3WK, 3SG, 3JT, 3DU, 3NO, 3MB, 3RO, 3BZ, 3GG.

The ORS with skeds are the ones that are the most reliable traffic handlers. Let them help you.

VE3QB, in case you've forgotten, is still QSL Manager. Send him a stamped addressed envelope for your cards. Also he gets out "Ham News," a most interesting sheet for the Ottawa Valley gang. Give him more support. VE3DU is the most recent RM. VE3BC between chasing for jobs, YLs, and parasites, is QRL. VE3II is now with Wholesale Radio. VE3UY is with Canadian Tire, and VE3JN is with A. & A. VE3JT worked all VE on 80 with his antenna drooped over a church roof, and his eyes closed due to illness. 7 mc antenna at that, and only 30 watts input. Some ten VE3s have worked Europe on 3.5 mc lately. Why not give that band a try, and dodge the high frequency skip. One of the Toronto gang logged 12 VE3s on February 11th, 11 p.m.-2 a.m., on 3.5 mc, and worked four of them. VE3SG is plenty QRL with Queen City Club work. VE3ABW is looking for Winnipeg skeds on 3.5 mc. VE3MB

is an optometrist. (Page VE3JT.) VE3CE adds to Lauder Ave. QRM. VE3YS is looking for Toronto and Hamilton skeds. VE3RK, VE3TF, VE3LC, VE3KR, and VE3LI are the activist of the Ottawa troops. VE3WX has been heard in "The Grandstand Seats" around 3575KC. (See his article in next month's XTAL.) Lo and behold VE3RO came forth to cop a VE Contest prize (maybe). Oshawa hams 100% C.C. VE3PL and VE3FD have 56 mc equipment and want tests with anyone interested. VE3GG says his Power QRM makes all CW notes sound like cat's meowing. VE3VD is completing a super. VE3IB is on half of every night. So are a lot of others that shouldn't be. VE3VA still irons bugs out, but new job looks nice. 3XJ has swell new receiver and is putting pep into the Wireless Ass'n. What has happened to the Orillia-Barrie, Hamilton, and Head-of-the-Lakes hams? Send us the news. Arrangements have been made to enlarge this column to as much as two pages, so let her come, gang, and see you in church.

Your Man Friday.

THE PHONE GANG

A lot of useful news is lacking under this heading owing to the fact the phone stations have never done much reporting to the SCM. However, this is the phone gang's column, and commencing with the next issue will be edited by one of the most active phone men. So, send in all the dope on yourself, and the scandal on others that you can think and give the blossoming editor of this column a chance to make a mess of it. No kiddin', though, we feel we can print monthly dope, of interest, to even the lowly CW men. Maybe we can bring out some of the Radiophone Ass'n's ideas. This is going to be ours, so let's use it.

VE3JI, on 75, has been very active, and heard a lot. The Midnight Broadcasts at VE3II have been somewhat curtailed of late. VE3AZ flits from 75 to 85 and back again, has a neat oscilloscope, and is trying to get out of giving a lecture on it. VE3GO deserted the fine CW work, for phone, which is also fine. VE3JI, JB and JH entered the VE Contest. VE3JG has moved upstairs, the junk to follow. VE9AL's 20's are going FB. VE3HE is back on 14 mc again, and started off by arranging a VP5 sked for a YL down the street, or is it a YF? VE3NX has unlimited phone license now. VE3RT works VE3AP very often, and they work up nice QSO parties. News is lacking about the 160 meter phones, and is wanted badly. Give your dope to any Toronto phone and he'll

XTAL'S FUTURE

A lot of suggestions have come up in the preparing of this first issue of XTAL, and taking ideas from different amateurs, we have acted as best we thought and have tried to evolve something we felt would be appealing. We are willing to admit that XTAL, as you see it, may not be what you would like to see the most. It is our intention to get out an Ontario Section Bulletin that you would like to see, and would find interesting. By that, we mean, it is entirely up to you, as to its contents, its policies, and its future.

As is planned now, we intend to present some technical, or semi-technical, items of interest to both the phone men and the CW men, in each issue, showing no partiality to either. To print articles sent in by the gang themselves; articles on practical difficulties and experiences which every one of you fellows encounter while building and operating your own stations. There are many things each of us have discovered, little troubles we have cleared up, which are applicable to many and of interest to all. Things, too, that we never see nor read in QST or any other radio magazine. Besides this the SCM is going to furnish us with the latest news of all the gang, taken from the reports he receives each month, news that will be "hot" and complete. Strays, humour, and many other items will also appear as we are able to learn them.

The policy of XTAL is also up to you. However, we do feel that the policies of the ARRL are the ones to follow. This does not mean we cannot criticize in a decent manner. Some criticisms that may come up from time to time may be of the utmost importance to our hobby. Perhaps, in due course, our influence may be brought to bear to make our game more enjoyable now, and safer in the future. We wish to be open-minded and at the same time accomplish something worth while. All this is up to you.

Its future is in your hands. This bulletin is yours, and its future depends entirely upon you, to make it what you will. It is our intention to act as mediaries, to collect, to censor, and to publish what is your desire. It is up to every last one of you to offer your suggestions and your contributions.

The April and May issues of XTAL are well under way, and you will receive all three gratis. The advertising space sold in each issue pays for the printing and mailing. However, we can improve XTAL if we can increase our income. Maybe we could have a two-colour cover, interesting pictures reproduced, and increase the size. This can only be attained by having a subscription rate. This, too, would give us a "paid-up circulation", which is of great value when we ap-

pass it on to XTAL. VE3XX worked VE5 on 160. Bet there'll be a VE3 work England next month on 160! VE3JO and his boys are doing a real job at Toronto's Queen City Club. Don't miss the next Mystic Nights of the Ether initiation they put on. The week-ends and early evenings are the popular times on 85. More use should be made of this band. It is about the only thing we have the Ws haven't. Of course, we have 25 cycle current, too!

CLUB GANGS

The Queen City Amateur Radio Club meet at Harcourt Hall, Harcourt Ave., Toronto, the 2nd and 4th Mondays of every month. Monday, February 25th, a big euchre and bridge is taking place. Eats 'n everything. Bring the YE, YL OW, or what have you and enjoy a large evening. 8.30 p.m. is the time.

The Wireless Ass'n of Ontario's next meeting will be held in Room 21, the Electrical Building, University of Toronto, on March 8th, at 8 p.m. The IRE has been invited to attend a special lecture by Dr. Robinson of North Adams, Mass., at this meeting. Don't miss the biggest gathering in Toronto's amateur history.

The North Toronto Club meets on Fridays. Get in touch with VE3RT for future dates. Send in news of other clubs to XTAL.

CRA (Cont.)

couraged to join the ARRL and those eligible for Official Phone Station appointments are being asked to make application for them. The only Official Phone Stations in Ontario to date are VE3AZ, VE3II, VE3FP, VE3JG, VE3JI, and VE3NX, all of whom are members of the CRA, and of these VE3II has been appointed Phone Activities Manager. In addition application has been made by the Association for affiliation with the ARRL. Independently, however, of the ARRL the Canadian Radiophone Association will work toward the betterment of radio conditions in Canada and all amateurs who are in sympathy with the objects of the Association are urged to send a dollar to any of the above officers and a membership certificate will be forwarded to them by return mail.

Notwithstanding that the Association has been in existence not quite four months up to the date of writing (February 15th) the following well known amateurs have paid their dues and become members:—VE 2AB, 2AP, 2AX, 2BG, 2DU, 2EC, 2GH, 2GP, 2HK, 2HT, 3AAH, 3ABD, 3ACK, 3AP, 3AZ, 3CN, 3FP, 3GG, 3GO, 3GT, 3IG, 3IL, 3IQ, 3IX, 3JB, 3IG, 3IH, 3JI, 3JU, 3KM, 3MP, 3NC, 3NR, 3NX, 3SX, 3TS, 3XI, 4BW, 4DC, 4HM, 4JJ, 5BJ, 5ER, 9AL, 9AT and 9BE.

Wholesale Radio "The Ham's Best Friend"

Stocks All
Nationally
Known Lines

National
Bliley
Polymet
Raytheon
RCA-Victor
Sylvania
Weston
Triplett
Readrite
Signal
Hammarlund
Lynch
Cardwell
Johnson
Shure
Astatic
Yaxley
Utah-Carter
Hammond
Jefferson
Taylor
I. R. C.
and others

A FEW OF OUR STANDARD VALUES

HYGRADE CRYSTALS
80 and 160 meter finished
xtals

A Real Buy
\$1.50

We offer to the amateur
a real bargain in these
crystals. An excellent high
power oscillator.

XTAL HOLDERS

Moisture proof, of extreme
low loss white insulux.
GR type plugs. Special.
\$1.35

XMITTING TUBES

H.D. 866's—7500 P.V.—
600 M.A. Each \$2.50, or
two for \$4.75.

H.D. 210's—Large Plates,
excellent for 80 and 160
meters—\$1.89.

RCA Westinghouse 203-A
Carbon Plate—\$18.50.

S.W. RECEIVERS

New RCA-Victor ACR-
136.

Available for immediate
delivery.
Manufactured and licensed
in Canada.

Complete in every detail.
Net \$98.50

SPEAKERS

10" Magnavox Permanent
Magnet, Dynamic, Net—
\$4.95.

We specialize in amateur
equipment. A complete line
of standard parts coupled
with real service and solu-
tions to your problems makes
us your logical choice of a
supply house. VE3XB and
VE3II in charge.

proach our advertisers. Do you wish to pay
for XTAL? And if so, how much? Would
you rather have it, as you see it, free? It
is up to you.

Well, fellows, there's your first issue of
XTAL, and "we hope you like it" a little.
We and you have seen a good many bulletins
that are put out by other sections of the
ARRL. We have tried to incorporate as
many of their best features as possible. We
want to see a more united and stronger sec-
tion here in Ontario, and if you feel even
a slight pleasure from our efforts, and believe
that we are accomplishing something of bene-
fit to us all, we shall be well repaid. We have
attempted to start the ball rolling. Whether
it shall become bigger and finer as time
passes depends . . . well, "we'll turn it over
to you now, fellows, and see what you have
to say."

(And make it soon!)

Ed.

Ontario Contest

Following the success of the Canadian Tire
Corp. Contest just ended, the SCM is plan-
ning an Ontario Contest to be held in April.
See the next issue of XTAL.

XTAL TNT (Cont.)

either portion of the TNT grid coil. Thusly,
a single '03-A or '11 can be made into crystal
control as easily as a pair of '45s or '01-As.
Extra fine crystals are not necessary, as the
power required from them is small. A good
monitor should always be used, and the sig-
nals checked frequently when the equipment
is in operation, because hideous parasitic
oscillations set up if the TNT gets beyond
the control of the Tritet, and fails to lock
properly. Make certain there are no parasitics
on either side of your crystal frequency, as
the smooth and beautiful effect of the system
will be nullified.

This system gives you cheap and efficient
crystal control, eliminates all trace of 25 cycle
'hum, and places your signal on the air in
the A1 class. You may work "all bands" with
the one crystal, and have done away with
buffers and doublers. Why not try it? Its
simplicity is remarkable and results are un-
believable.

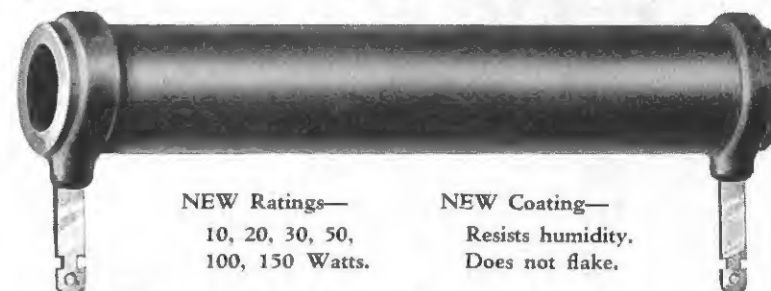
Contributions

Send in your articles and news of your
doings to XTAL. Canada should have an
amateur publication. Let's build XTAL into
something of which to be proud.

Wholesale Radio Co. Limited

1133-35 BAY ST. - TORONTO

I R C Power Wire Wound Resistors FOR YOUR TRANSMITTER



NEW Ratings—

10, 20, 30, 50,
100, 150 Watts.

NEW Coating—

Resists humidity.
Does not flake.

NEW Adjustable Types—30, 50, 100, and 150 Watts.

NEW Mounting Brackets for all but 10 and 20 Watt sizes.

INTERNATIONAL RESISTANCE CO. LIMITED,
187 Duchess Street, Toronto.

Please send me catalogue sheet with prices and data on the new improved I.R.C. Power
Wire Wound Resistors.

Name _____ Call _____
Address _____
City _____ Province _____



TYPE 524
LINE TO GRID



TYPE 1143
203A FILAMENT



TYPE 330
TUBE TO LINE

HAMMOND TRANSFORMERS

Are Specified Exclusively by Leading Canadian Amateurs Because
They Have Been Found to be—

Reliable
Liberal Design

Attractive in Appearance
Low in Price

THERE is a standard HAMMOND Transformer or Choke,
stocked ready for your immediate requirement, whether
it is a Velocity Mic. Input or a 2500 volt Plate Transformer.
Only the finest materials and the latest methods of construc-
tion, some of which are exclusively HAMMOND, are em-
ployed, thus assuring you of long carefree service. Our ex-
tensive facilities also allow us to offer you transformers for
every purpose, each one engineered, wound, impregnated and
employing the right core material for the work it is to do.

Ask your jobber for
your copy of our
1935 Catalogue

MADE IN
CANADA

HAMMOND MANUFACTURING CO., GUELPH, ONT.